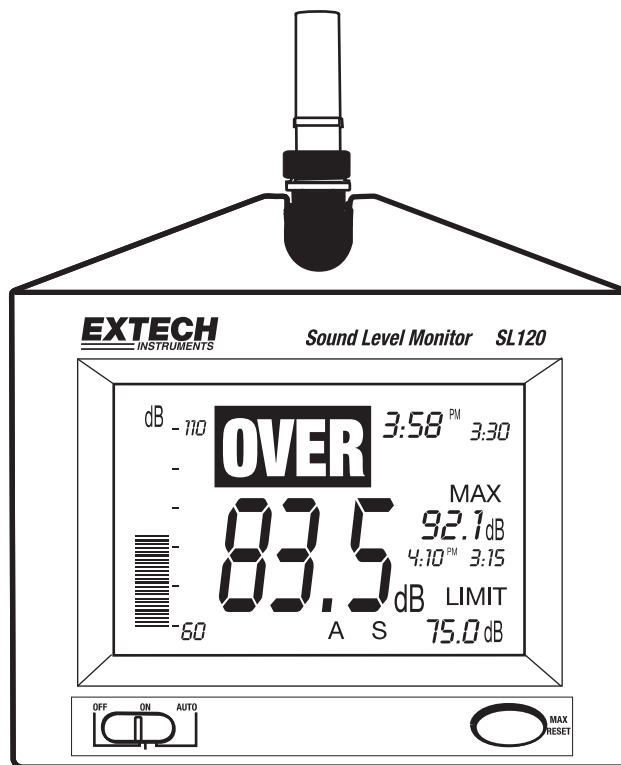




Sound Level Monitor

Model SL120



- Meets ANSI and IEC Type 2 Sound Level Meter Standards
- Settable High Limit with large OVER indication and Alarm Output
- Wall or Desk mountable
- Extra large LCD display with bargraph
- Maximum level display with time stamp
- Optional alarm kit drives remote over limit indicators.



Introduction

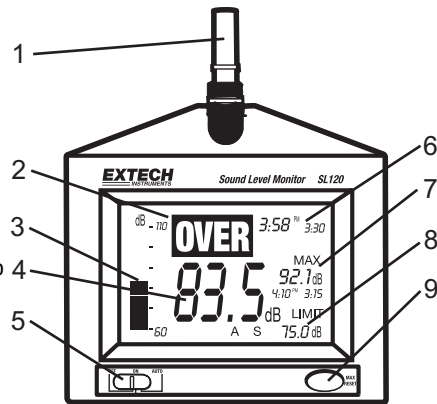
Congratulations on your purchase of the Extech SL120 Sound Level Monitor. Designed for wall mount, desk, tripod mount or hand held operation, this meter meets ANSI and IEC Type 2 Sound Level Meter standards. Included is a High Limit Set Point with a large OVER indication when the set level is exceeded. An Alarm Output can be used in conjunction with the optional Alarm Module Kit to power a larger or a remote indicating device such as a "QUIET" sign. Professional features include programmable A/C Weighting and Fast/Slow Response time, Max Memory with time stamp, and a Clock display. The microphone can be rotated 180 degrees to accommodate any meter location or it can be placed at a remote location using the optional Remote Microphone Cable. A programmable ON/OFF time extends battery life to 30 days when programmed 8 hours per day. Careful use of this meter will provide years of reliable service.

Specifications

Applicable standards	Meets IEC 60651-1979 and ANSI S1.4 1983 Type 2 SLM standards
Display	4.6" x 3.125" multifunction LCD
Frequency bandwidth	31.5 Hz to 8 KHz
Microphone	0.5" Electret Condensor Microphone (remoteable)
Measurement ranges	30 to 80dB, 60 to 110dB, 80 to 130dB
Frequency weighting	'A' and 'C' (Programmable)
Response time	Fast (125ms) / Slow (1s) (Programmable)
Resolution	0.1dB
Max Hold	Maximum reading is displayed with time
Alarm output	3.5mm Mono Phone Plug, Maximum: 3.4mA @ 5 Vdc, Minimum Output Voltage: 2.5 Vdc
Limit range	30 to 130dB
Under range indication	"- - -"
Over range indication	"OL"
Power	8 AA Batteries; optional AC adaptor (9V@350ma)
Battery life	240hrs continuous (approx); 30 days @ 8hrs/day
Operating temperature	32 to 122°F (0 to 50°C)
Operating humidity	Less than 80% RH
Dimensions / Weight	8.75x7.1x1.25" / 0.63 lbs. (22x18x3.2mm / 285g)

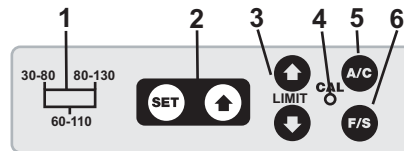
Meter Description

1. Microphone
2. Over Limit Display
3. Bargraph
4. dB display
5. OFF/ON/AUTO switch
6. Clock display
7. Max level display with time stamp
8. Set limit
9. MAX RESET button



Rear Panel

1. Range select switch
2. Time set buttons
3. Limit set buttons
4. Calibration adjustment
5. A/C select button
6. F/S select button



Sound Level Monitor Operation

Initial Configuration

1. Install 8 AA batteries
2. Setting the TIME
 - a) Press and Hold the Time SET button until the hours display begins to flash. 
 - b) Press the Time up arrow button until the hour is set.
 - c) Press the SET button. The minutes display will flash. Adjust as needed.
 - d) Press the SET button to step through and the arrow button to adjust;

Time of day	Hour
Time of day	Minutes
Time of day	AM / PM / 24 Hour
Year	
Month	
Day	
Auto ON	Hour
Auto ON	Minutes
Auto OFF	Hour
Auto OFF	Minute

A/C Frequency Weighting

Change the Frequency Weighting by pressing the  'A/C' button. The 'A' or 'C' icon will appear on the display.

With 'A' weighting selected, the frequency response of the meter is similar to the response of the human ear. 'A' weighting is commonly used for environmental or hearing conservation programs such as OSHA regulatory testing and noise ordinance law enforcement. 'C' weighting is a much flatter response and is suitable for the sound level analysis of machines, engines, etc.

Most noise measurements are performed using 'A' Weighting and SLOW Response.

Slow/ Fast Response

Press the  button to select Fast or Slow response as desired. F or S will appear in the bottom of the LCD display.

Select FAST to capture noise peaks and noises that occur very quickly. Select the SLOW response to monitor a sound source that has a consistent noise level or to average quickly changing levels.

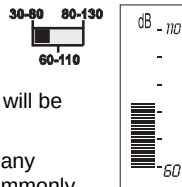
Select Slow response for most applications.

Range Selection

Slide the Range switch to the 30-80, 60-110 or the 80-130 position. The selected range will be indicated on the LCD bargraph. If the measured dB level exceeds the range selected "OL" will be displayed. If the measured dB level is below the selected range "- -" will be displayed.

Normally, select the range in which the upper dB level is greater than any expected sound pressure level. The 60 to 110dB range is the most commonly used range. Use the 30 to 80dB range in quieter areas such as offices and classrooms.

Note: When the range is changed the Max display may indicate an overload "OL". Press the MAX RESET button to clear the MAX display.



Over Limit Set

Press the up or down LIMIT arrow buttons to set the OVER limit level as displayed on the LCD. If the measured dB level exceeds the set limit, the **OVER** indication will appear in the display and the over limit signal will appear at the alarm output connector. The display indication and output signal will remain active as long as the sound pressure level exceeds the set limit.



MAX Hold

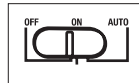
The MAX display indicates and holds the highest dB level measured since the meter was turned on or since the Max Reset button was pressed. The time and date of the max reading is also displayed.

To clear the display and start a new measurement session, press the front panel MAX RESET button. If the measured level exceeds the maximum for the range selected the MAX display will indicate "OL" (overload).



Programmable OFF/ON/AUTO time

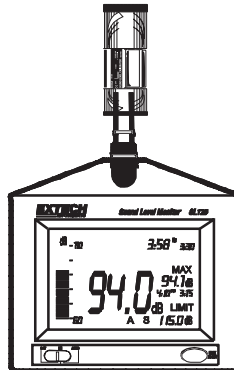
The meter is powered by 8 AA batteries or via an AC adaptor for permanent installations. Continuous battery life is approximately 240 hours (10 days). By programming the ON/OFF time, the battery life can be greatly extended (30 days assuming an 8 hour day). The **ON** and **OFF** times are programmed as described in the initial configuration paragraph. The meter will operate continuously with the power switch in the ON position. The ON/OFF time will be controlled by the meter when the power switch is set to the AUTO position.



Calibration

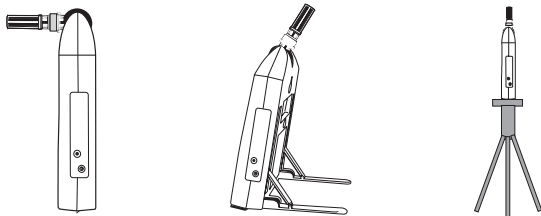
The sound level meter should be calibrated on a regular basis to assure that the meter's performance and microphone sensitivity has not change. Some operational directives require daily calibration checks (OSHA). Extech offers several acoustic calibrators to perform the calibration.

1. Set the meter to the 60 to 110dB or 80 to 130dB range.
2. Place the external calibrator over the Sound Level Monitor's microphone and turn the Calibrator on.
3. The meter should read close to the calibrator's dB output level. Typical Calibrator output levels are 94dB and 114dB.
4. If the meter is within ± 0.2 dB of the calibrator's output, no adjustment is necessary.
5. Adjust the calibration pot on the rear of the meter to the proper level.



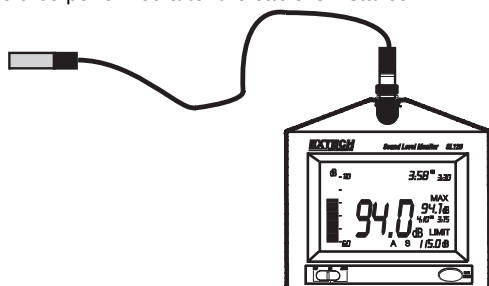
Meter Placement

The meter can be used Handheld, Wall mounted, Desk mounted or Tripod mounted. For wall mount operation, orient the microphone perpendicular to the wall to minimize the affect of acoustic reflections. For desk mounting, extend the rear legs and lock in place with the hinged locks. The tripod mounting nut is located on the bottom of the unit.



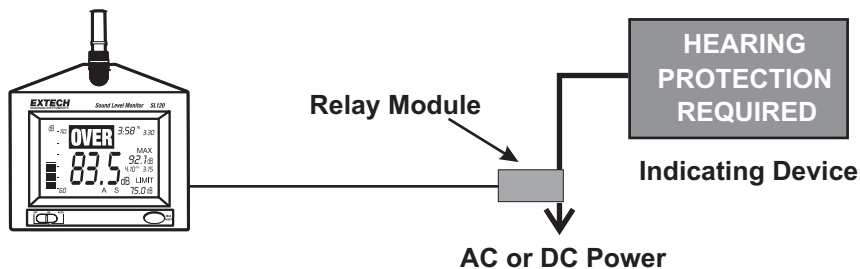
Remote Microphone (optional)

The optional 15' remote microphone cable can be used to place the microphone in one location while viewing the dB levels and/or generating a high limit alarm at another location. To remove the microphone, unscrew the holding collar and lift the microphone off the connector. The extension cable can then be plugged into the matching connectors. Calibration should be performed after the cable is installed.



Alarm Output (optional)

The alarm output drives the optional Remote Alarm Relay Module (cable and relay) when the LIMIT set point is exceeded. The relay module can be used to power external warning signs, "QUIET" signs or other indicating devices when the sound level is higher than the programmed limit. Refer to the manual supplied with the module for connection information.

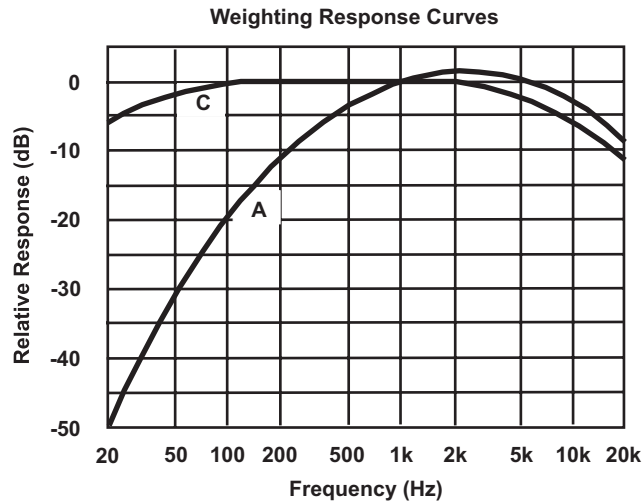


Note: For up-to date information on this product, optional accessories and literature, call or go to www.extech.com.

Measurement Considerations

1. Use a windscreen (not included) to cover the microphone in windy conditions.
2. Calibrate the meter often, especially if the meter has been idle for a long period of time.
3. Do not store/operate the meter in areas of high temperature or humidity.
4. Keep the meter and the microphone dry.
5. Avoid severe vibration when using the meter.
6. Remove the battery when the meter will be stored for long periods of time.

Frequency Weighting curves



OSHA permissible levels

Permissible Noise Exposure Limits	
Duration per Day (hours)	Sound Level db(A) Slow response
16	85
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
1/2	110
1/4 or less	115

Battery Replacement

The 8 AA batteries are located in the rear battery compartment. When the battery icon appears on the meter's LCD, it is time to replace the battery.

Calibration and Repair Services

Extech offers complete repair and calibration services for all of the products we sell. For periodic calibration, NIST certification or repair of any Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to insure calibration integrity.



Support line (781) 890-7440

Technical support: Extension 200; E-mail: support@extech.com

Repair & Returns: Extension 210; E-mail: repair@extech.com

Product specifications subject to change without notice

For the latest version of this User's Guide, Software updates, and other up-to-the-minute product information, visit our website: www.extech.com

Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to Service Department to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

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